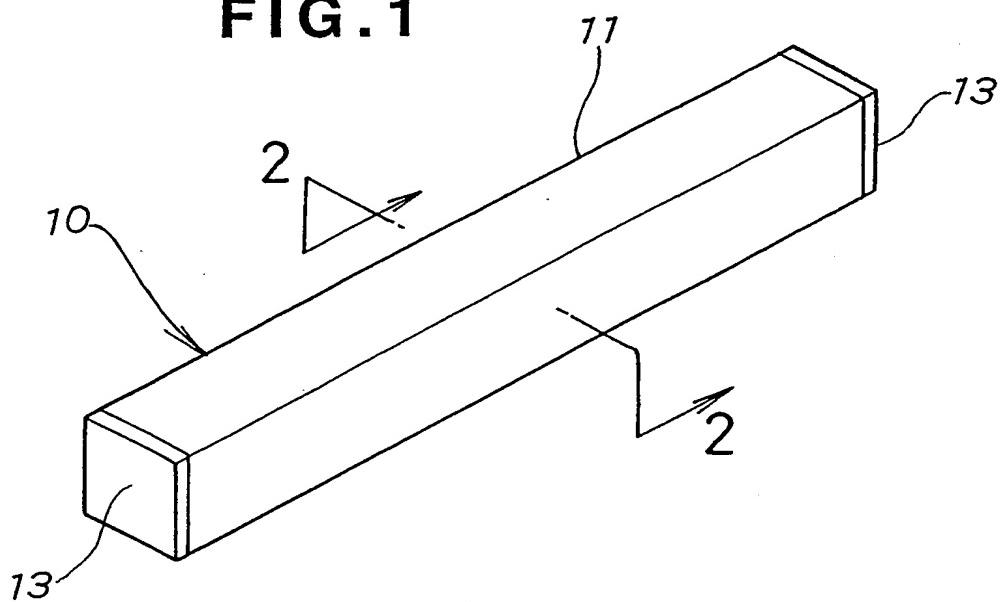


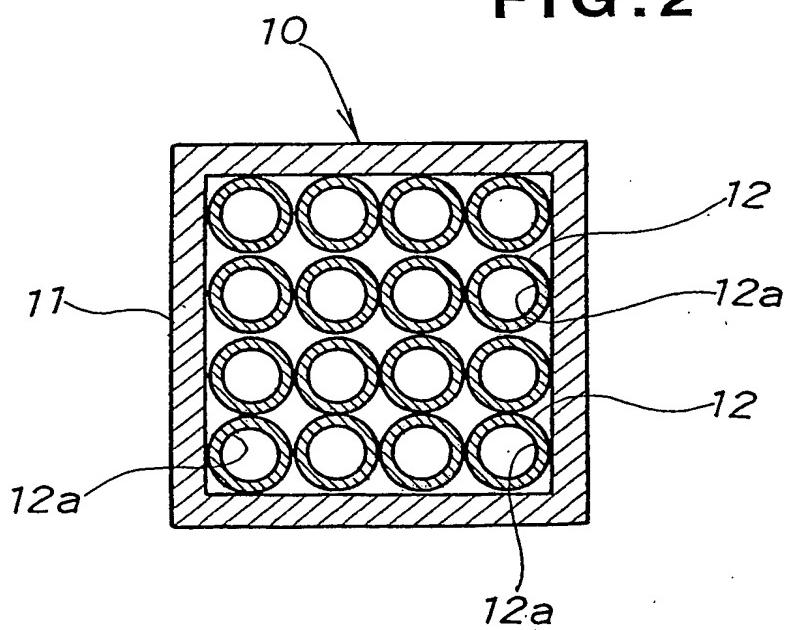
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**FIG. 1**



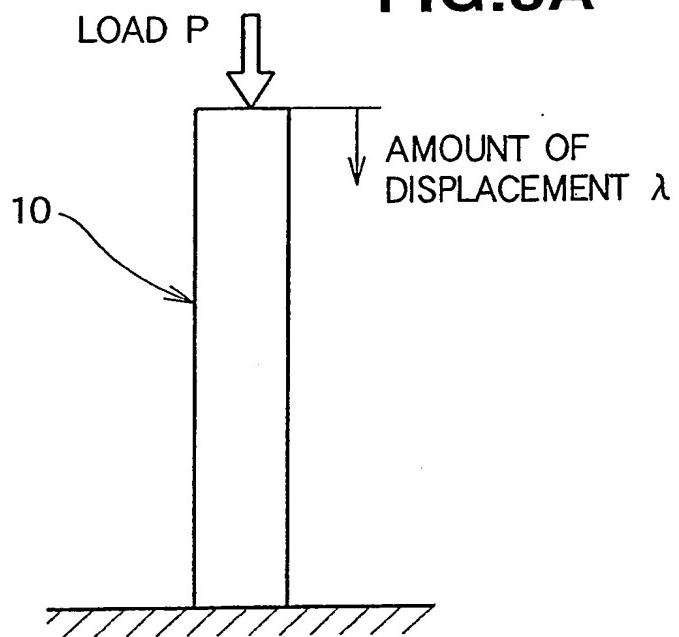
**FIG. 2**



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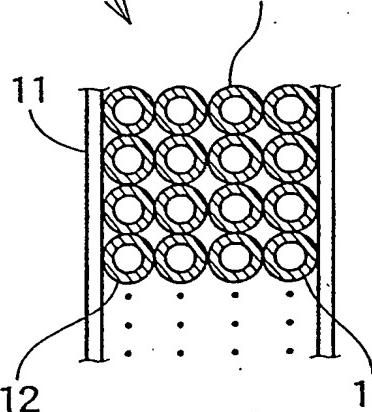
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**FIG.3A**



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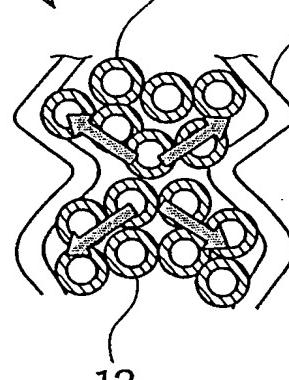


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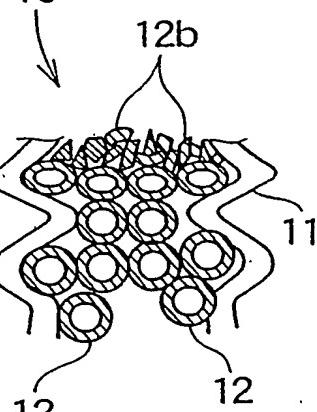
10



**FIG.3B**

**FIG.3C**

**FIG.3D**



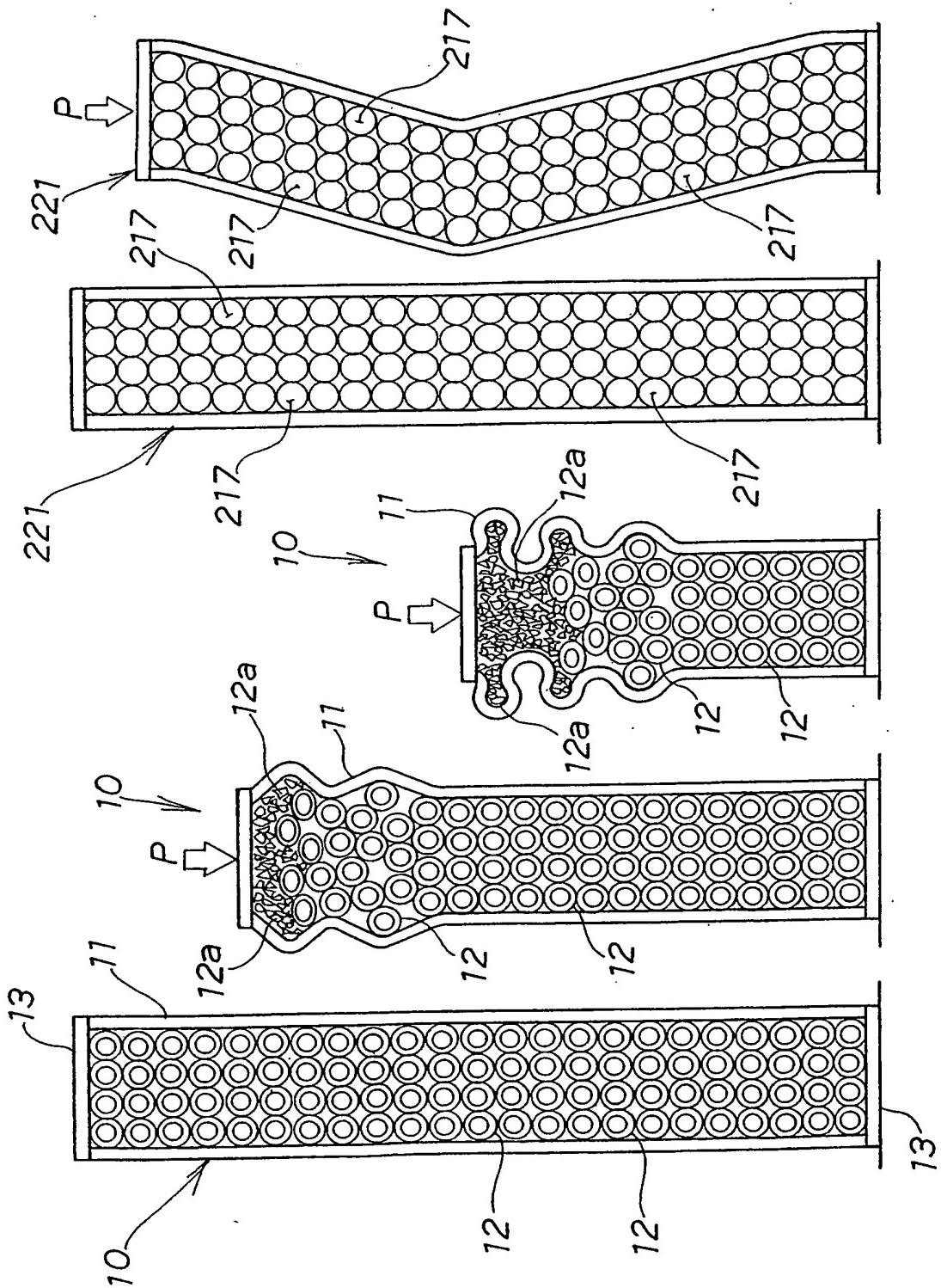


FIG.4A FIG.4B

FIG.4C

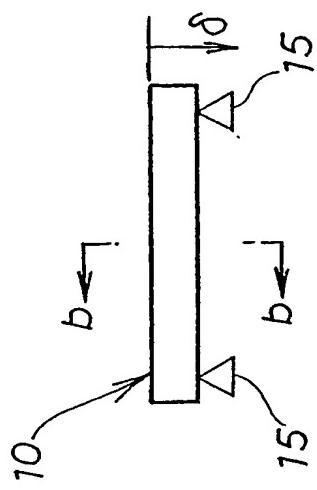
FIG.4D

FIG.4E

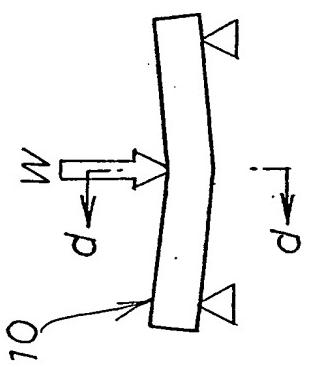
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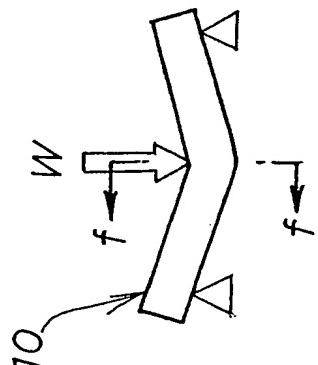
**FIG.5A**



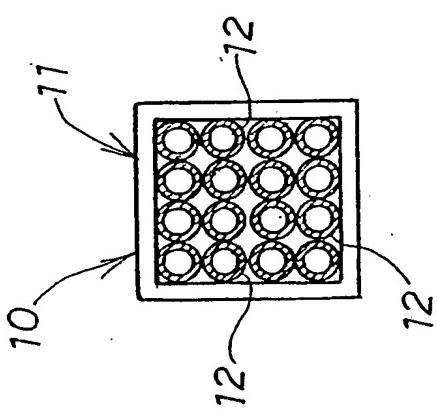
**FIG.5C**



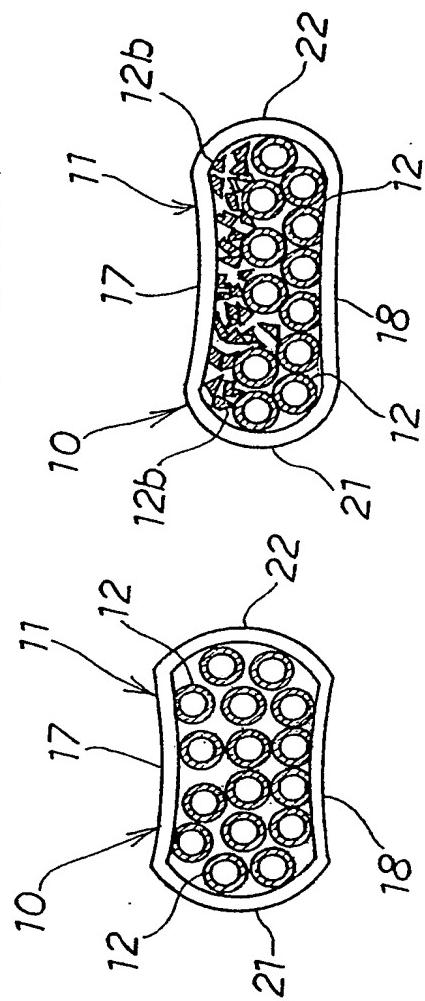
**FIG.5E**



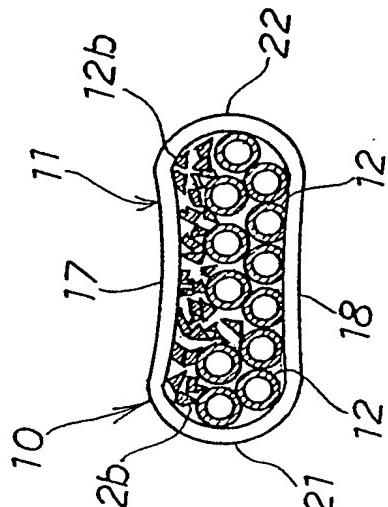
**FIG.5B**



**FIG.5D**



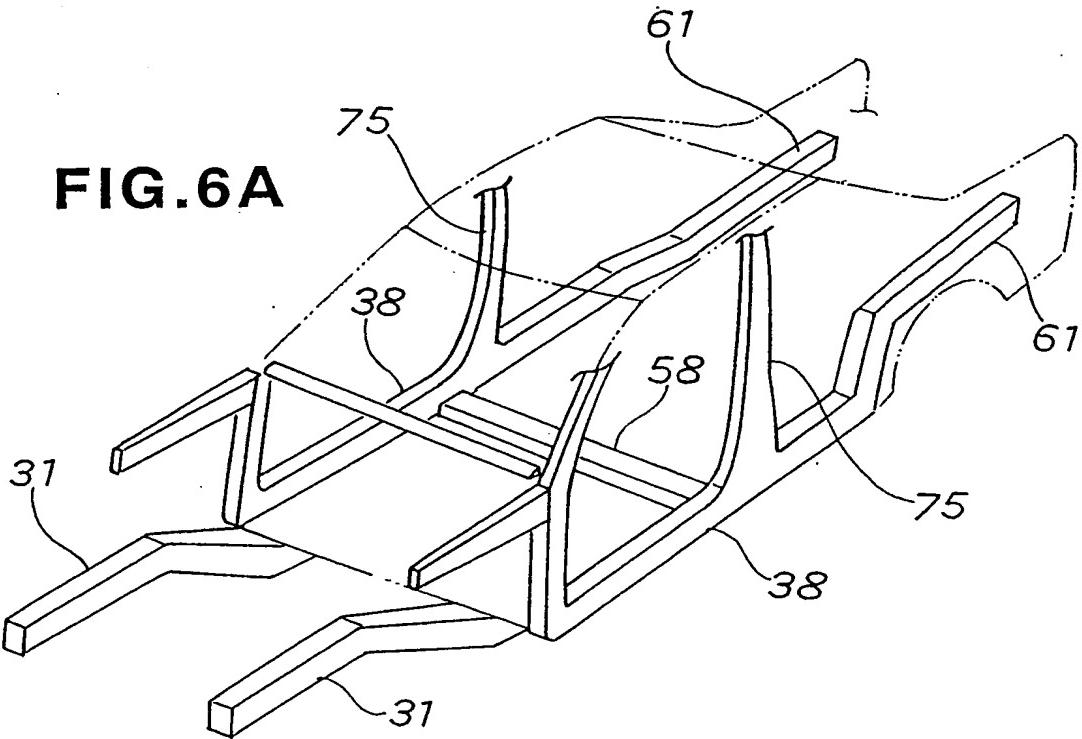
**FIG.5F**



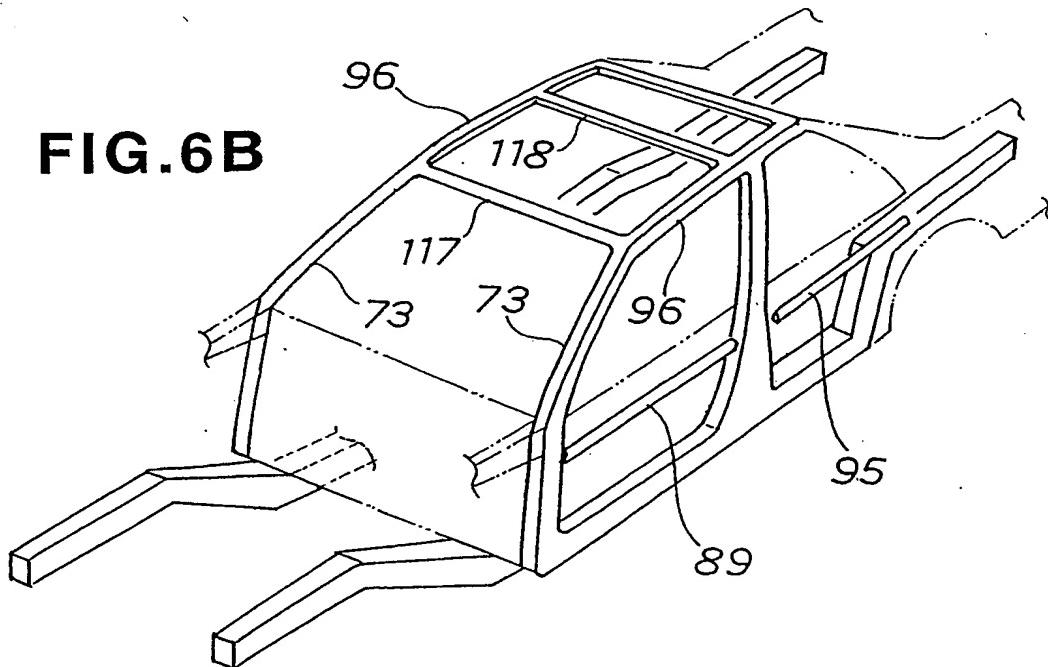
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**FIG.6A**



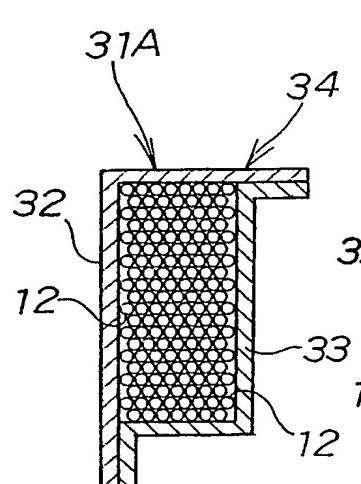
**FIG.6B**



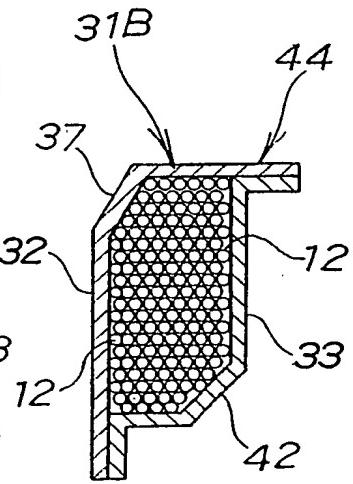
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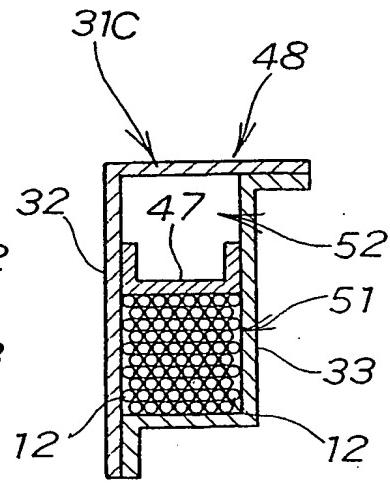
**FIG.7A**



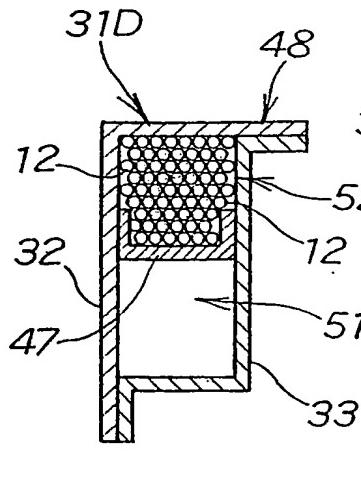
**FIG.7B**



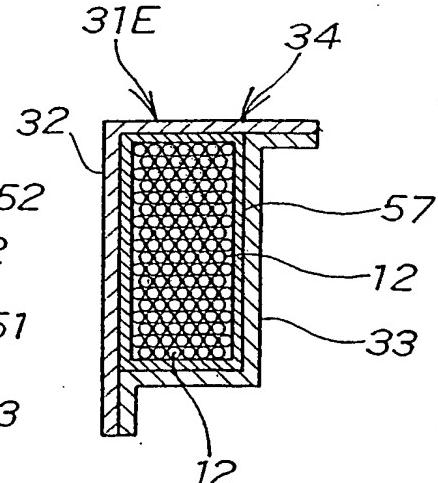
**FIG.7C**



**FIG.7D**



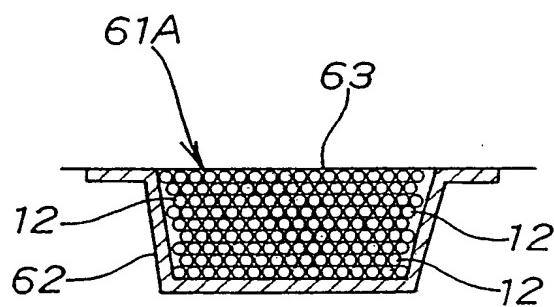
**FIG.7E**



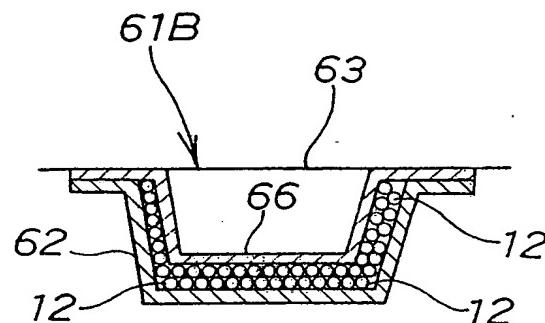
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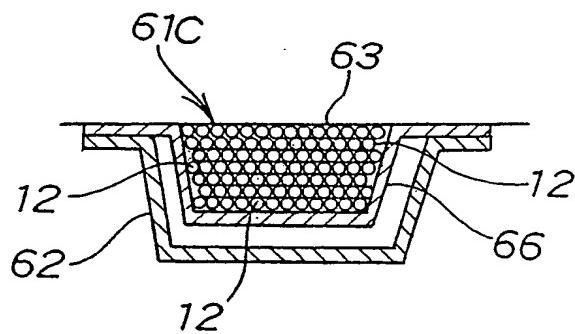
**FIG.8A**



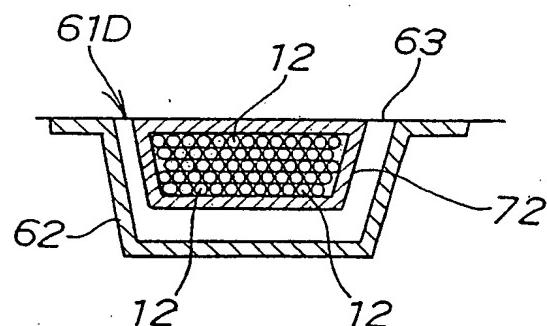
**FIG.8B**



**FIG.8C**



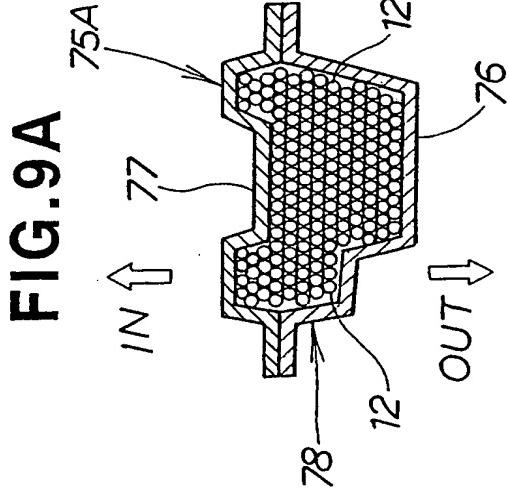
**FIG.8D**



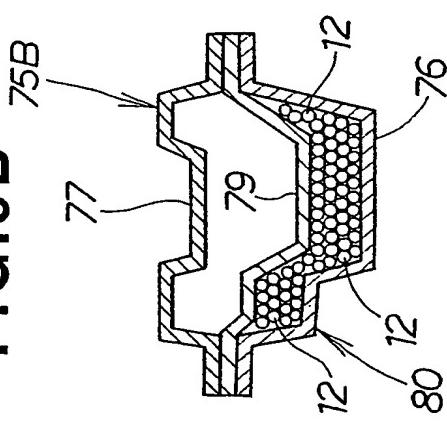
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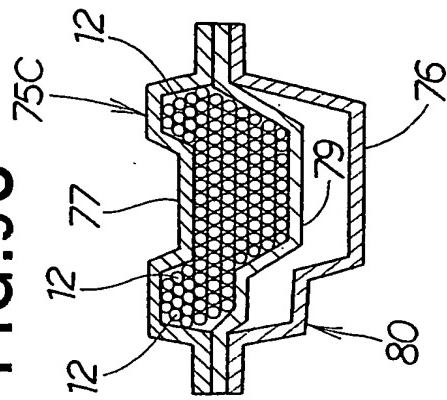
**FIG. 9A**



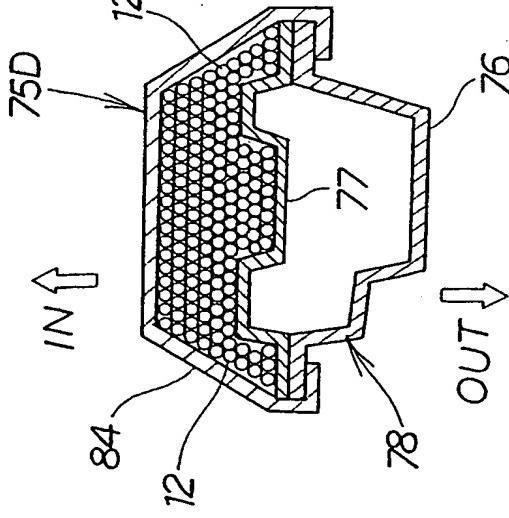
**FIG. 9B**



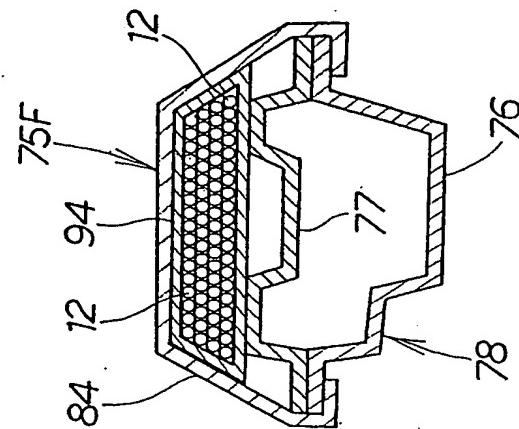
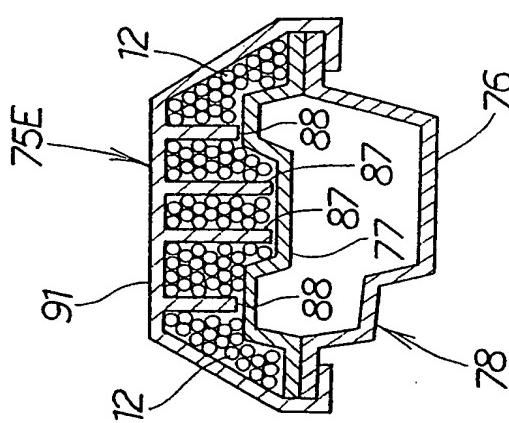
**FIG. 9C**



**FIG. 9D**



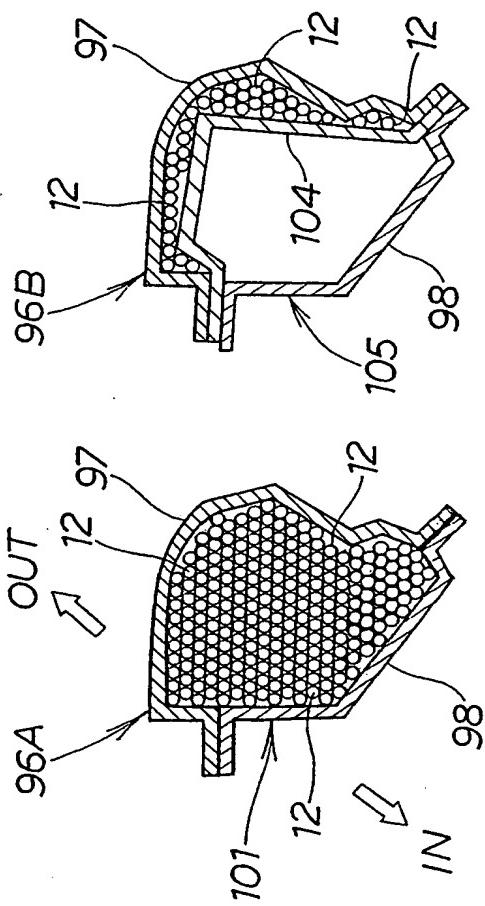
**FIG. 9E**



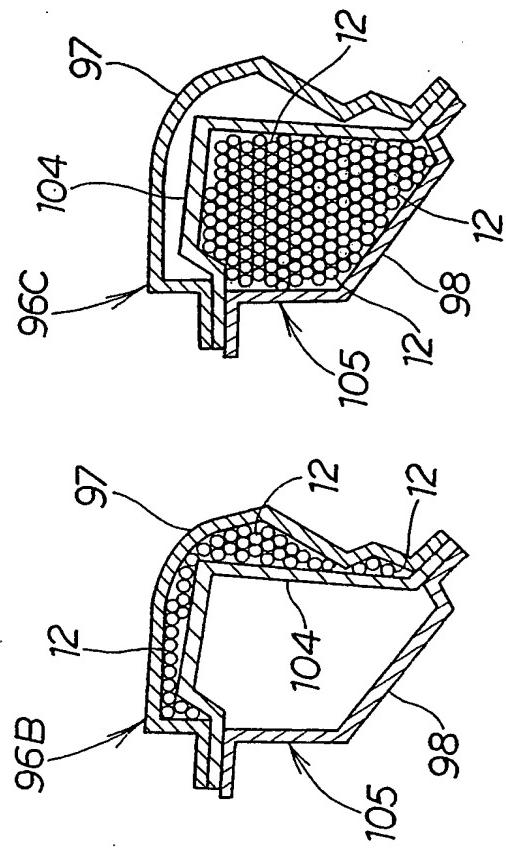
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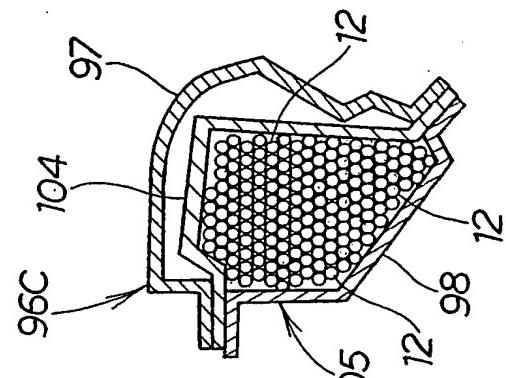
**FIG. 10A**



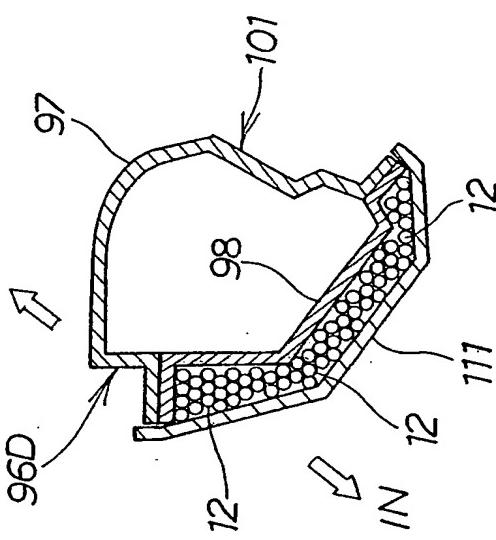
**FIG. 10B**



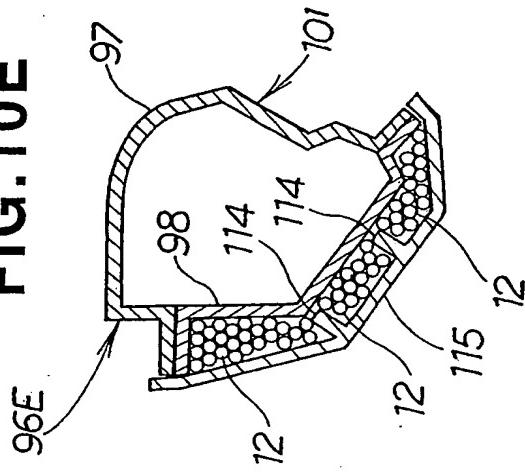
**FIG. 10C**



**FIG. 10D**



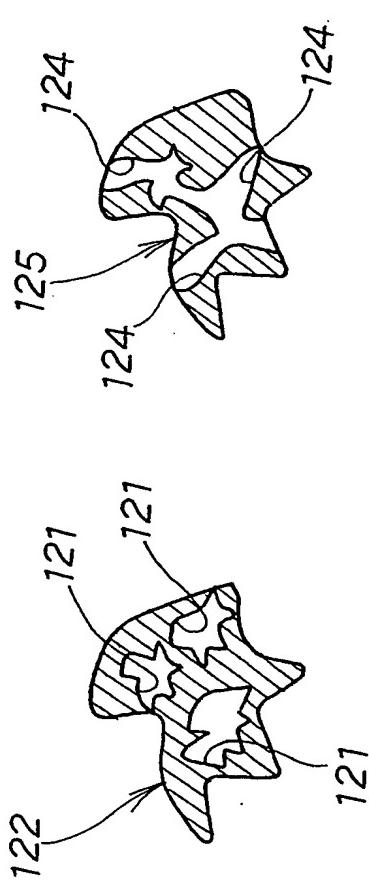
**FIG. 10E**



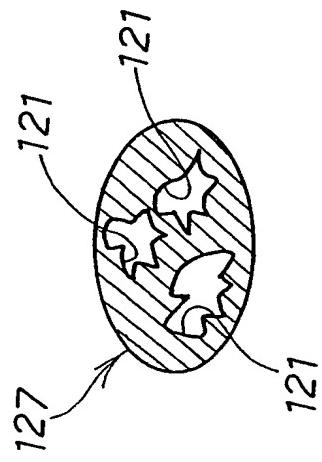
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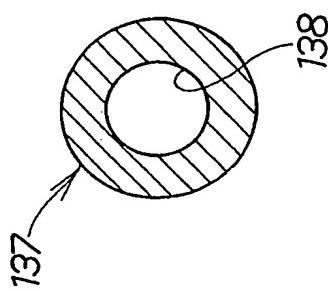
**FIG. 11A**



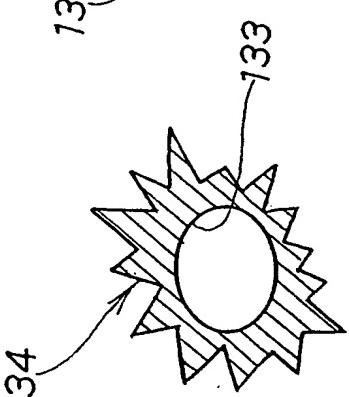
**FIG. 11B**



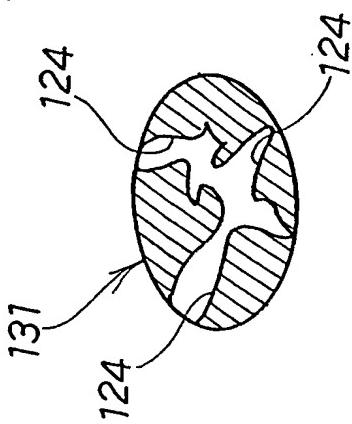
**FIG. 11C**



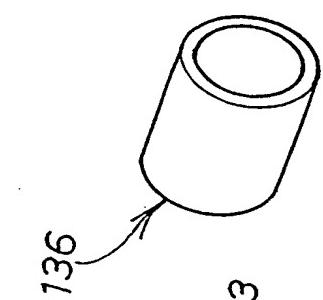
**FIG. 11E**



**FIG. 11D**



**FIG. 11G**

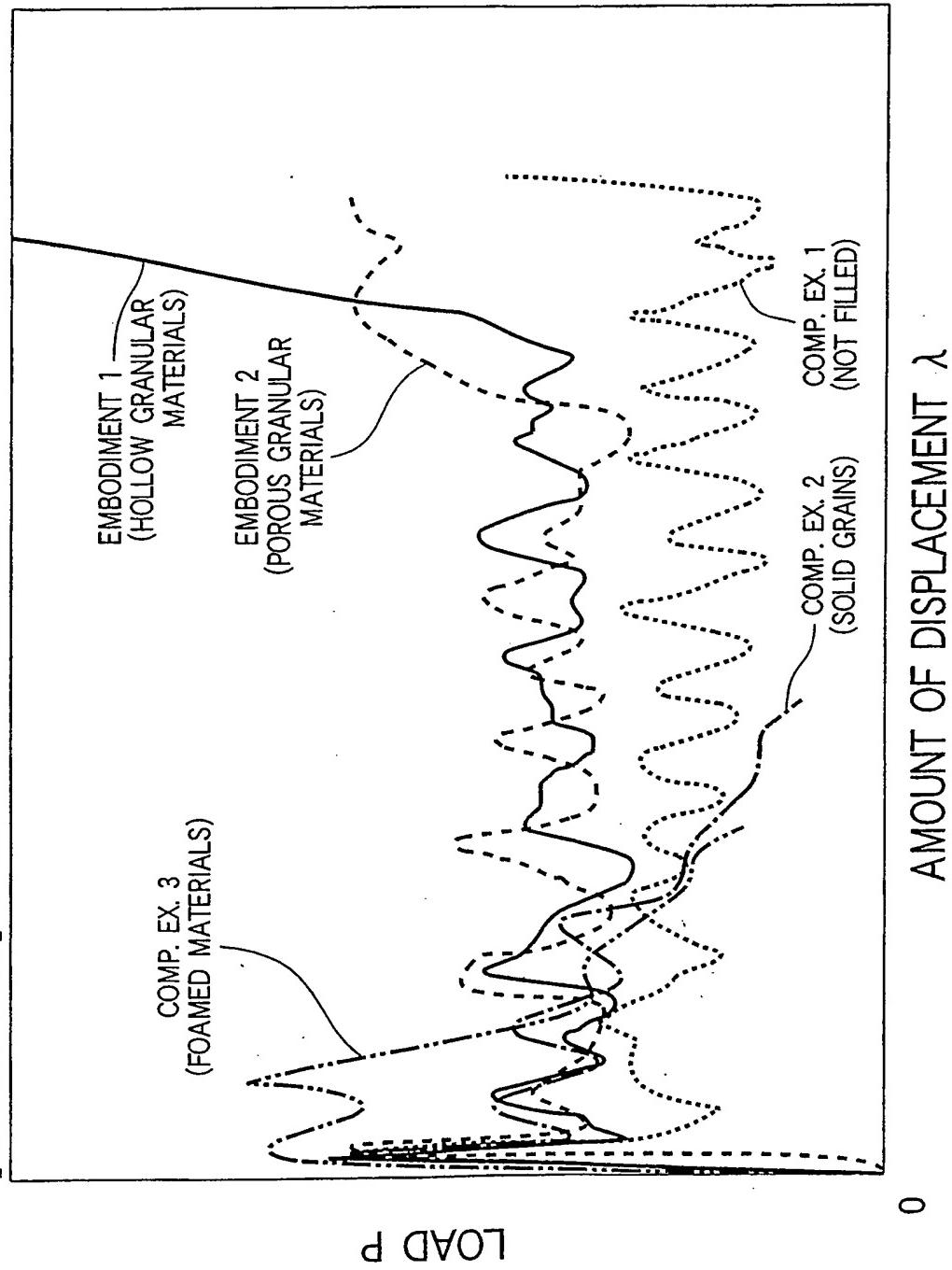


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FIG. 12

[CRUSH TEST]

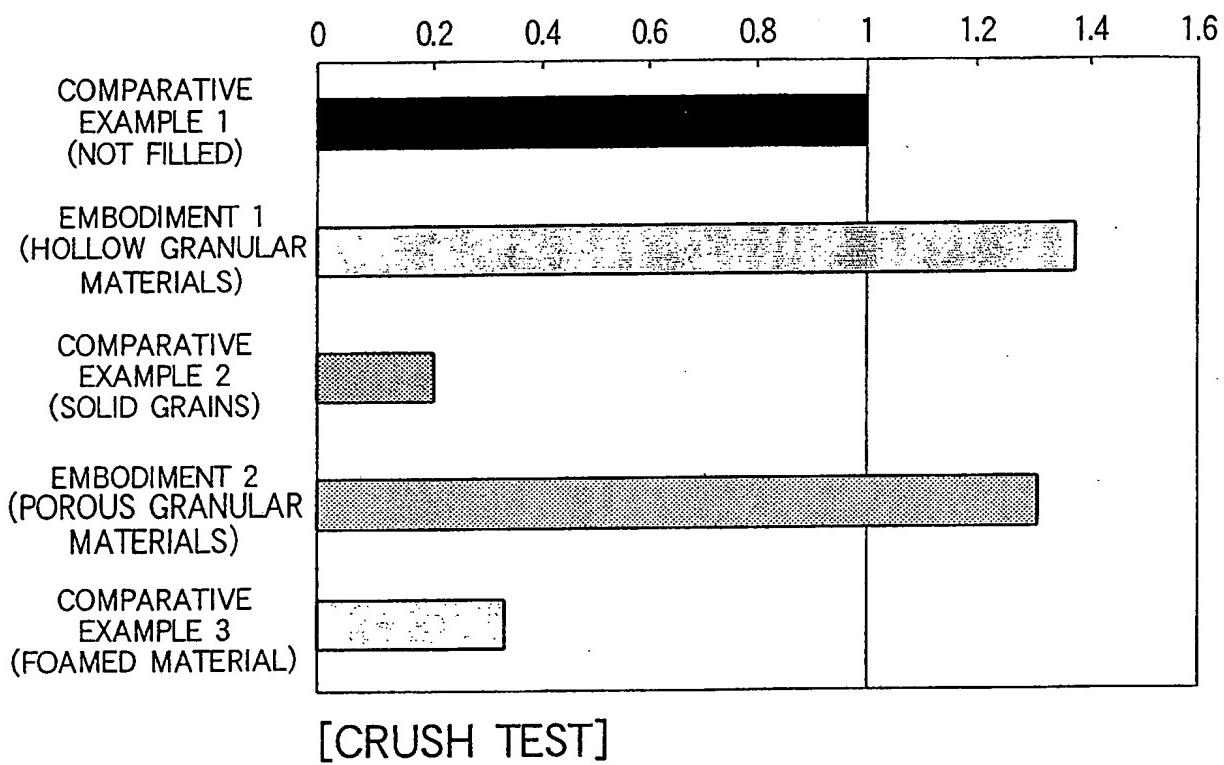


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## FIG.13

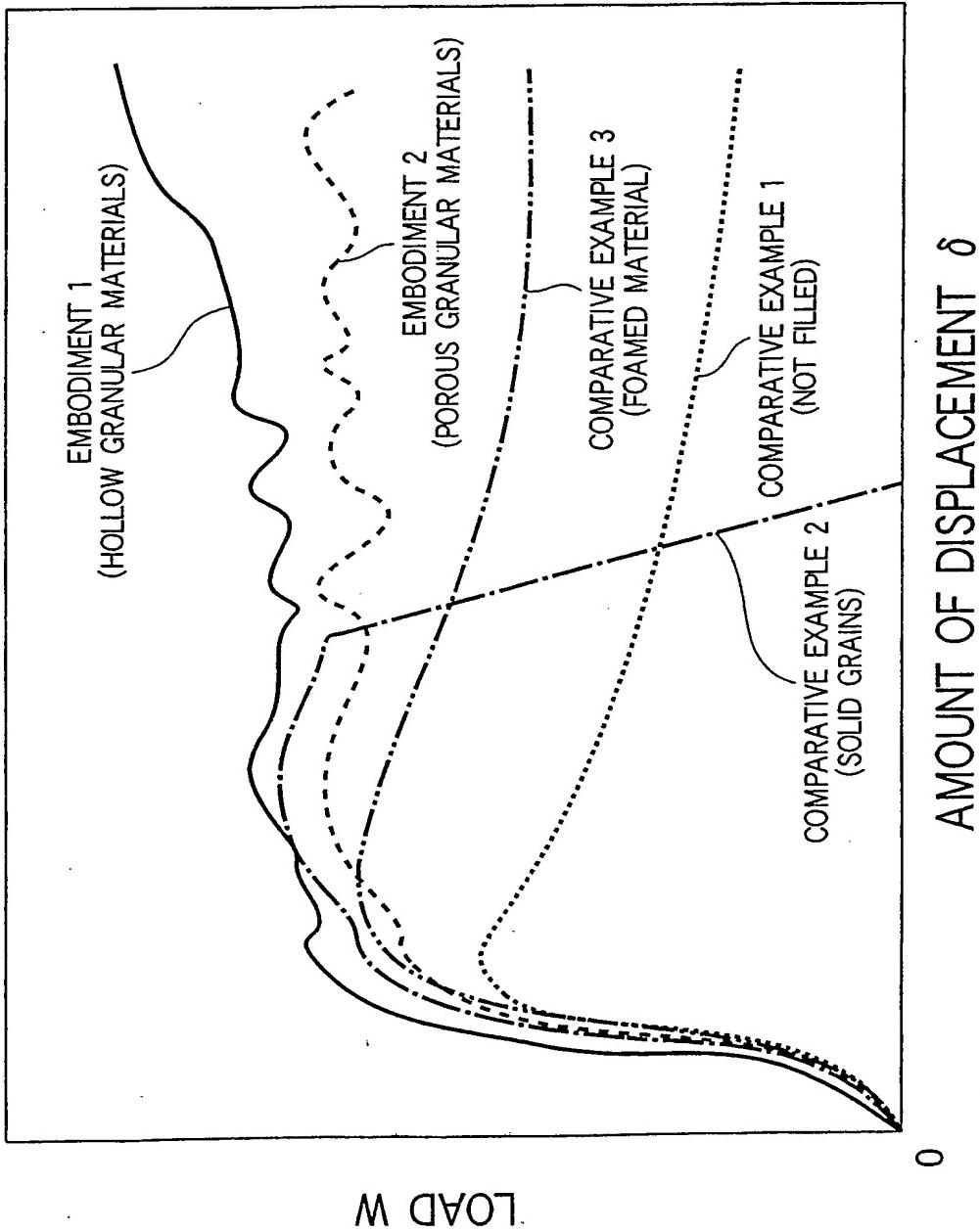
ENERGY ABSORPTION EFFICIENCY E



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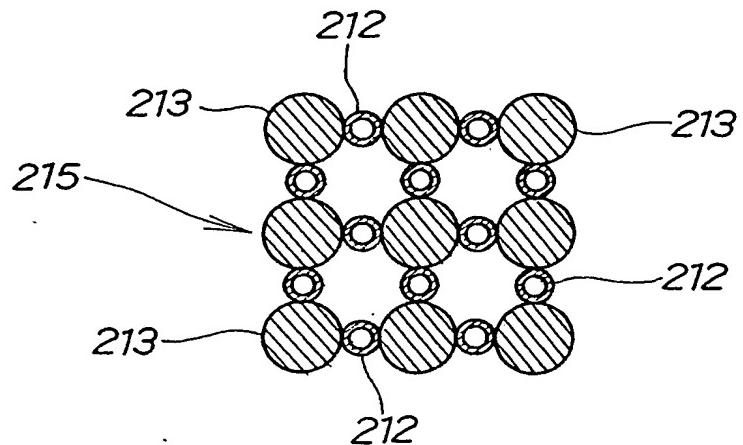
FIG. 14  
[BENDING TEST]



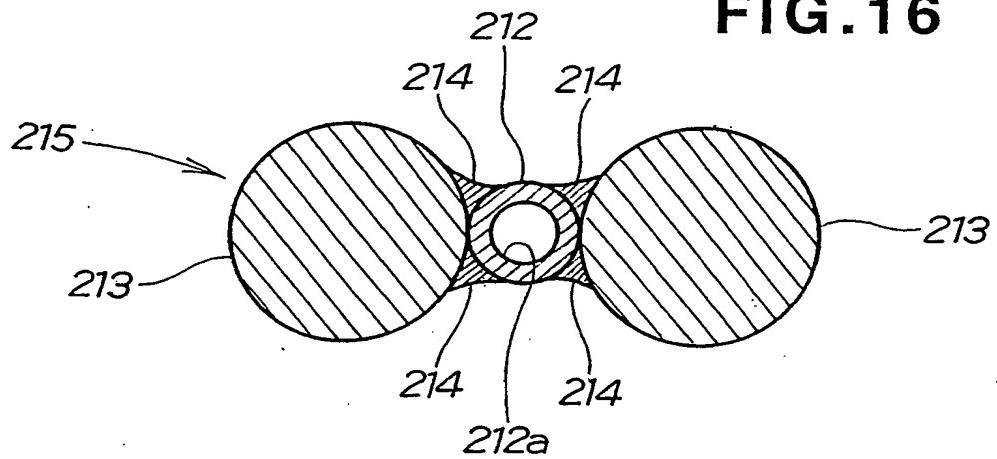
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**FIG.15**



**FIG.16**



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FIG. 17A

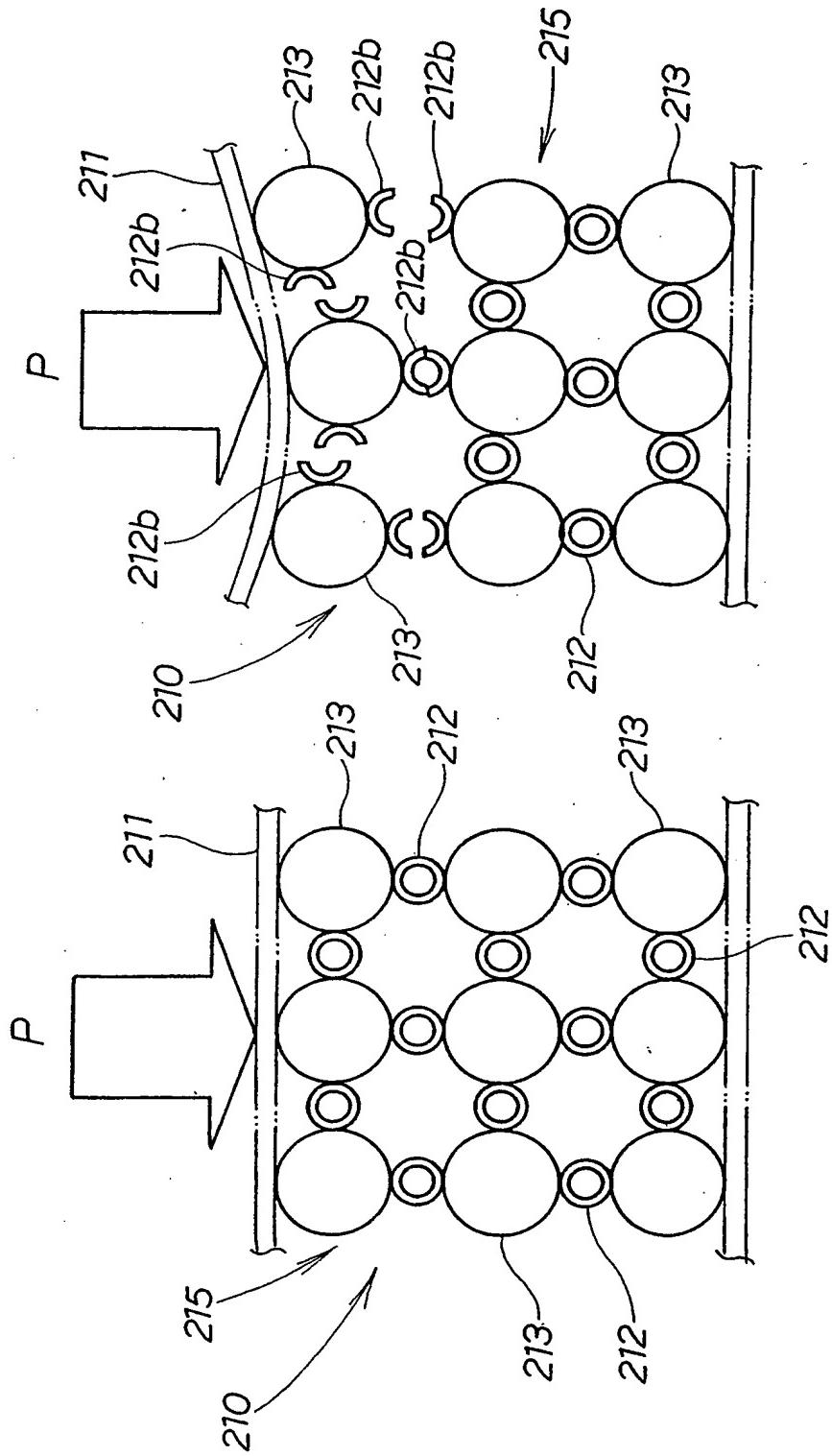
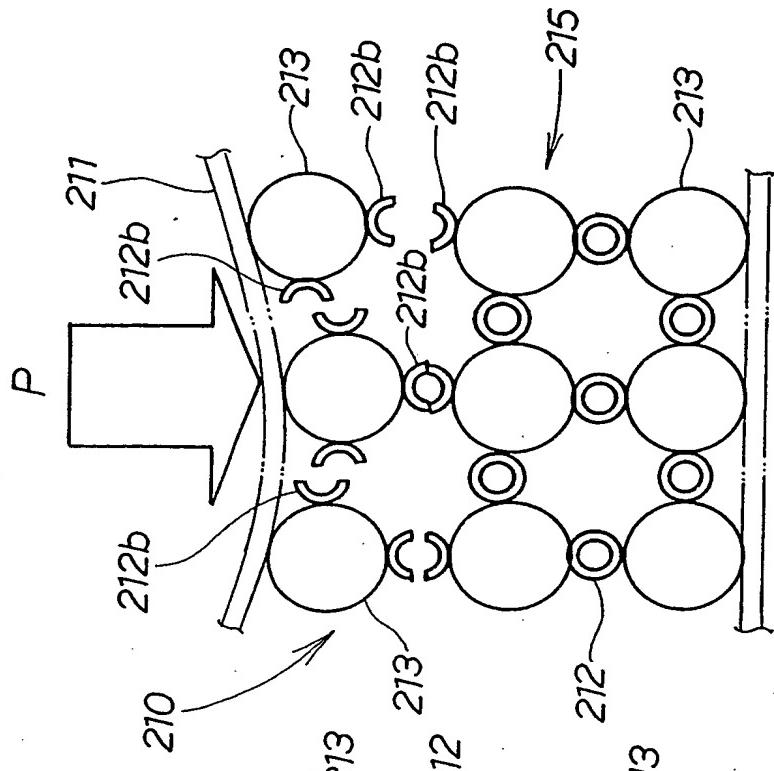


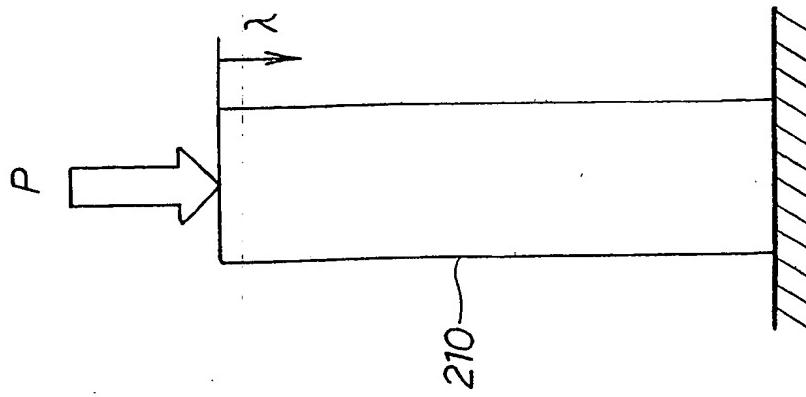
FIG. 17B



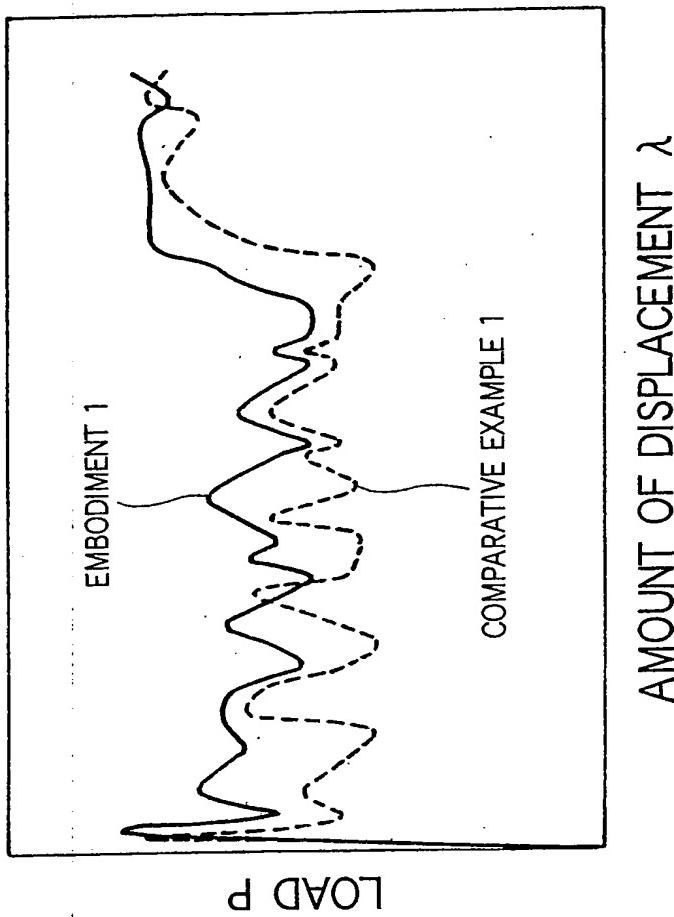
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**FIG. 18A**



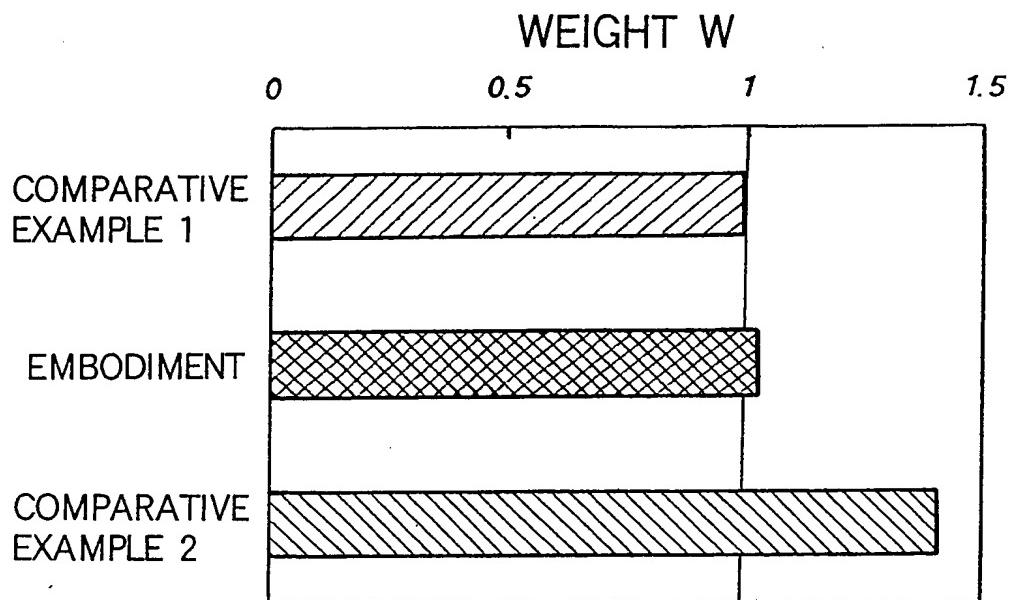
**FIG. 18B**



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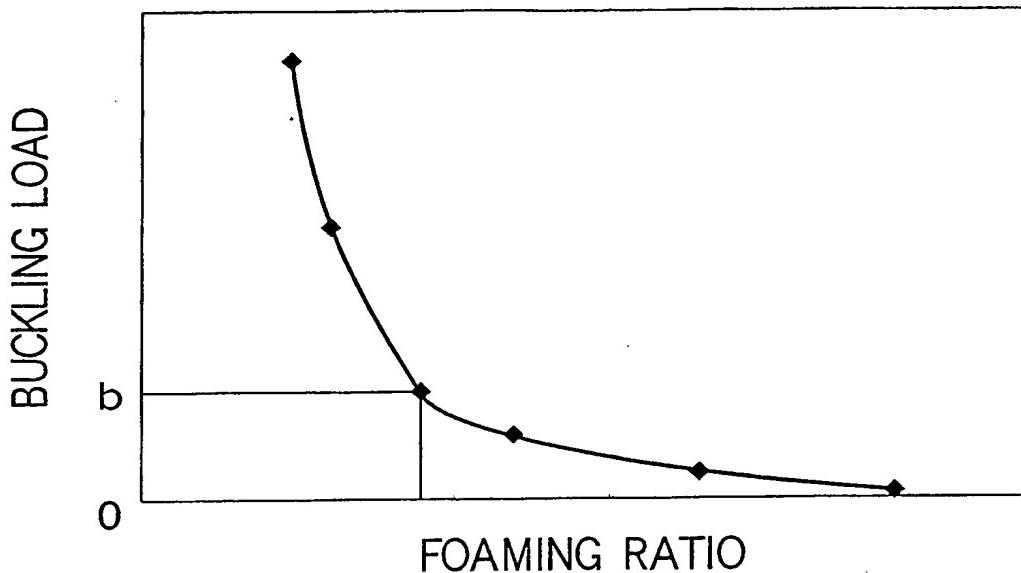
## FIG.19



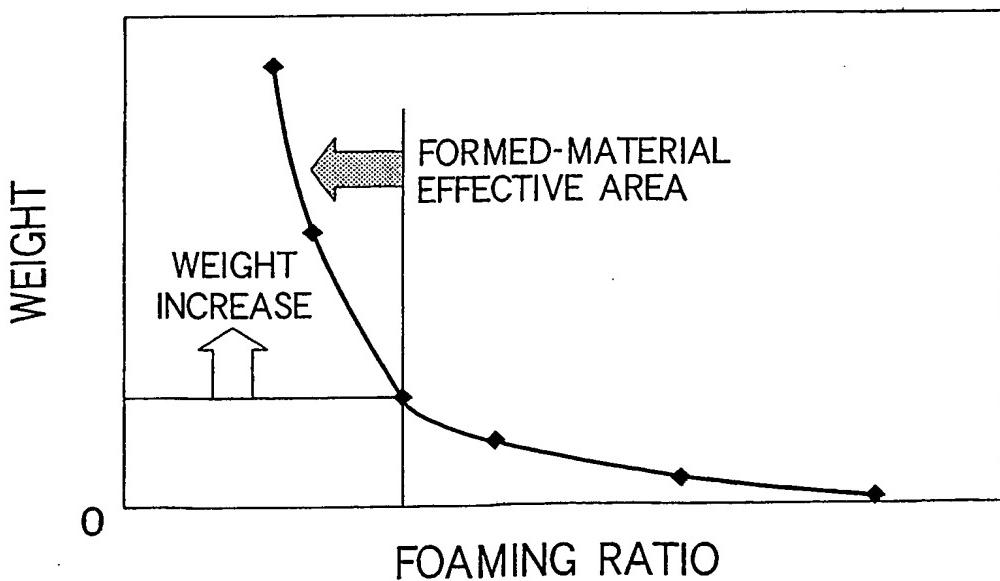
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**FIG. 20A**  
(PRIOR ART)



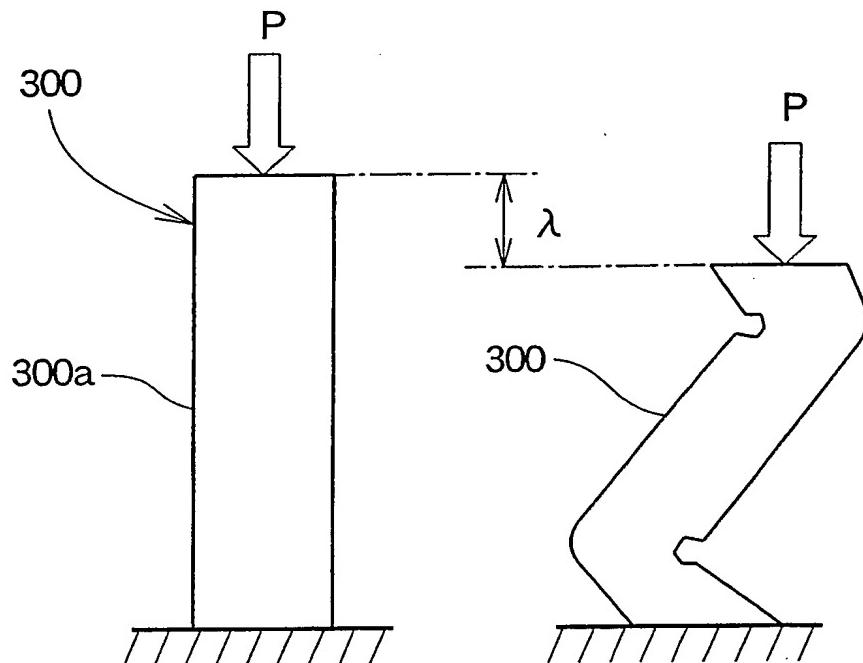
**FIG. 20B**  
(PRIOR ART)



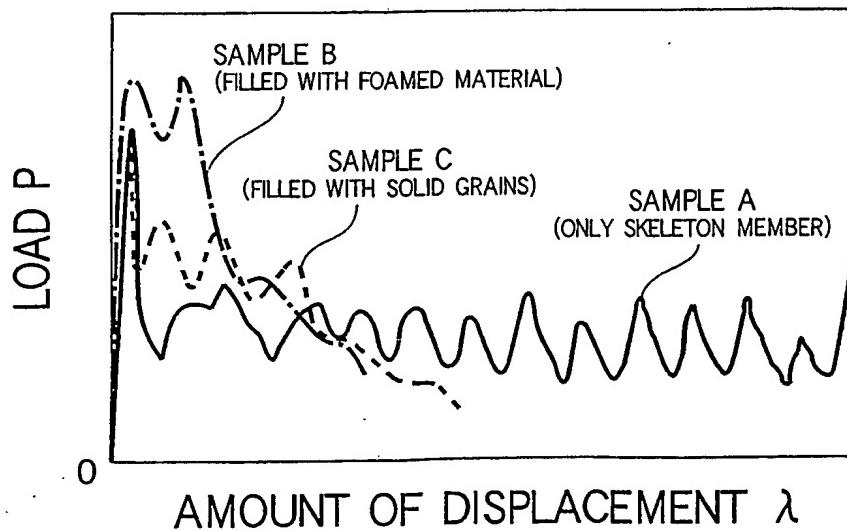
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**FIG.21A**  
(PRIOR ART)



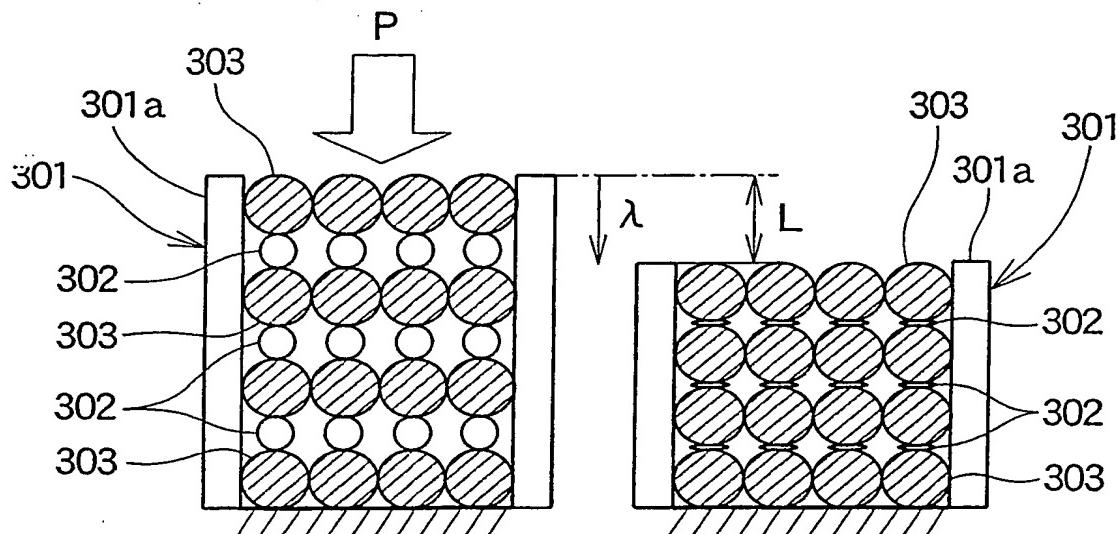
**FIG.21C**  
(PRIOR ART)



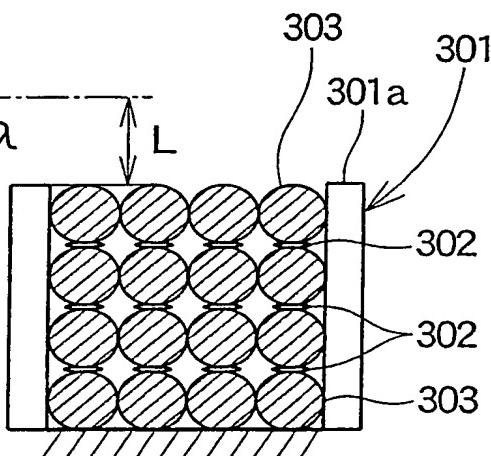
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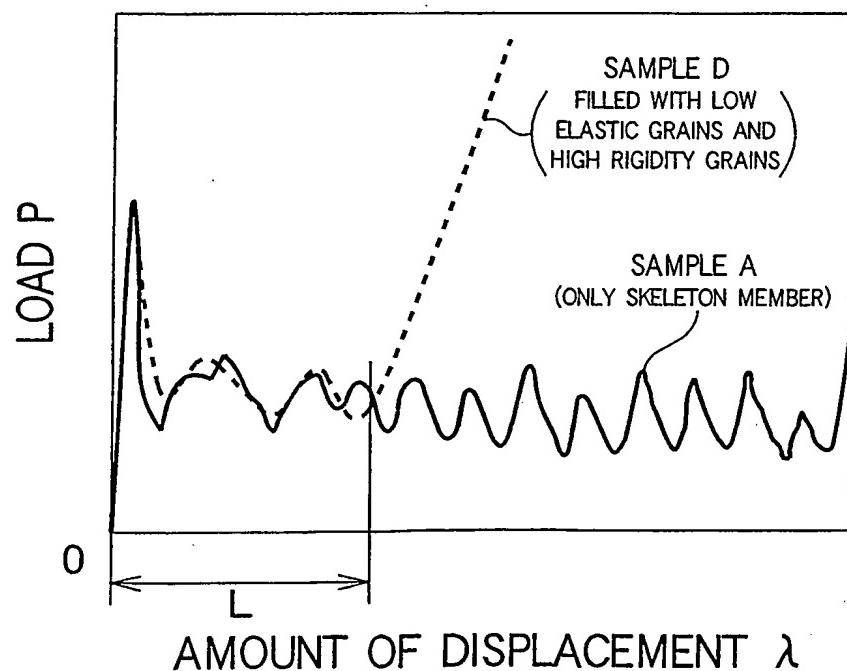
**FIG.22A**  
(PRIOR ART)



**FIG.22B**  
(PRIOR ART)



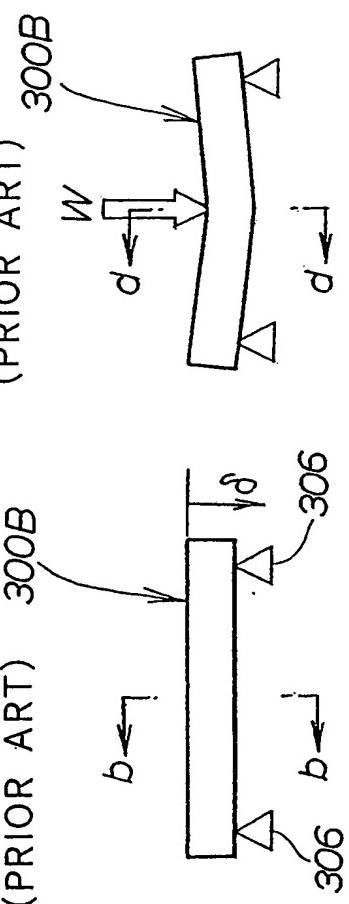
**FIG.22C**  
(PRIOR ART)



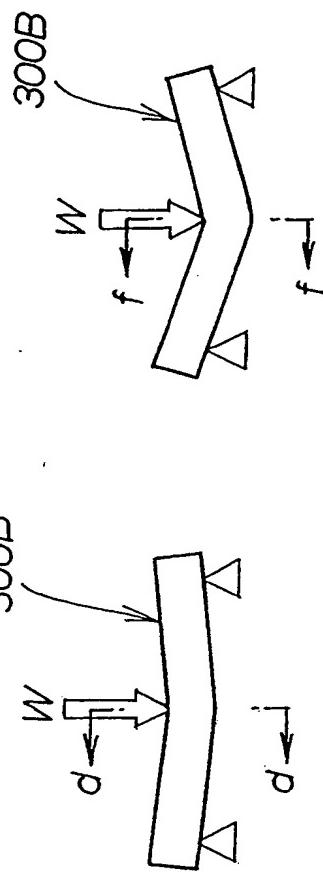
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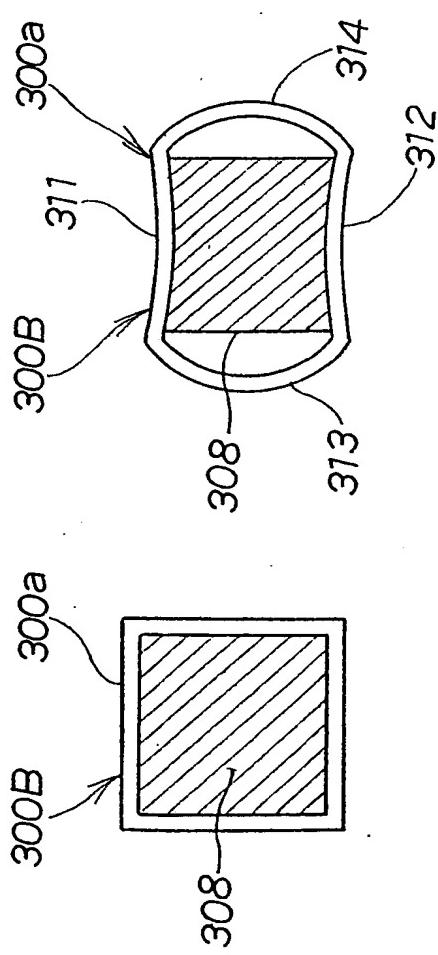
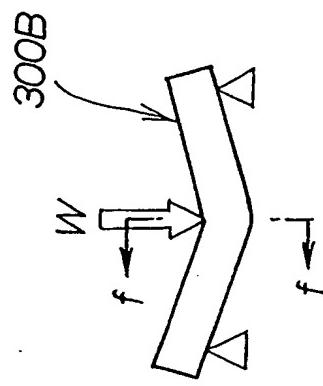
**FIG.23A**  
(PRIOR ART)



**FIG.23C**  
(PRIOR ART)



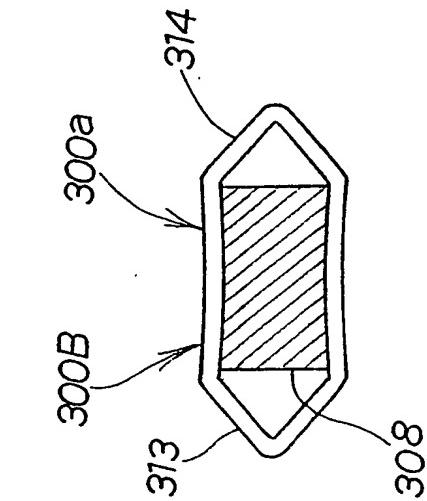
**FIG.23E**  
(PRIOR ART)



**FIG.23B**  
(PRIOR ART)



**FIG.23F**  
(PRIOR ART)

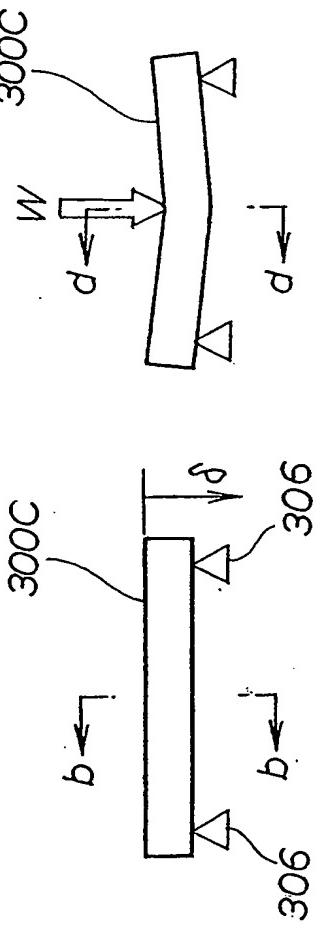


**FIG.23D**  
(PRIOR ART)

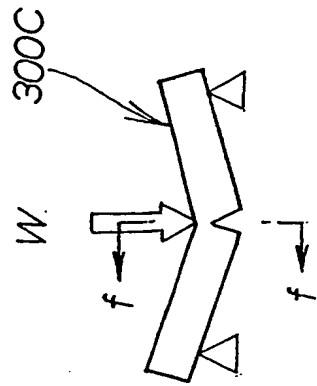
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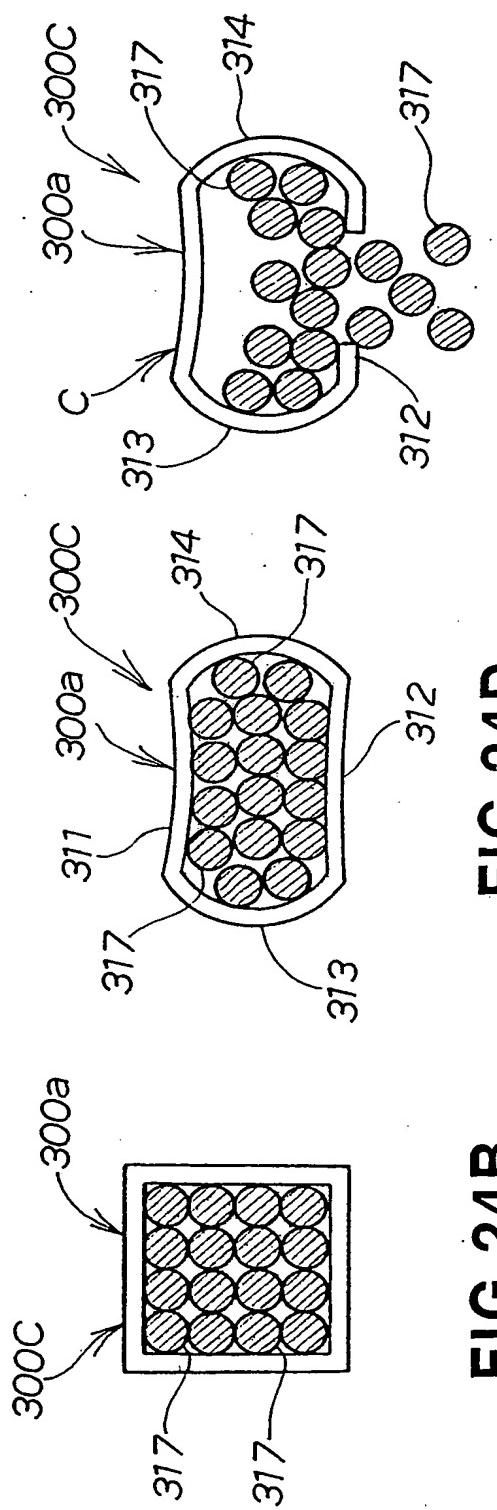
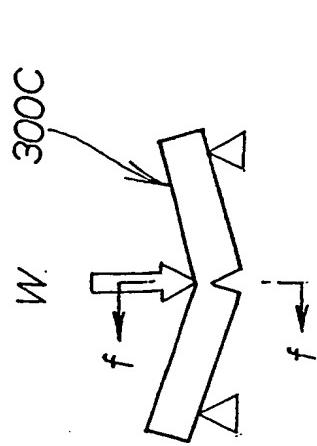
**FIG.24A**  
(PRIOR ART)



**FIG.24C**  
(PRIOR ART)



**FIG.24E**  
(PRIOR ART)



**FIG.24B**  
(PRIOR ART)

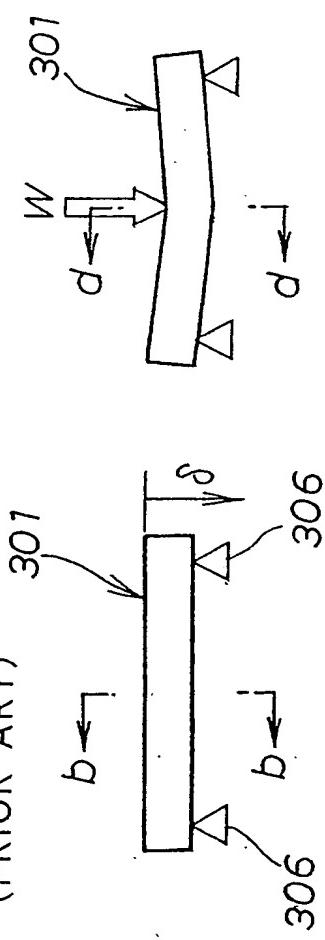
**FIG.24F**  
(PRIOR ART)

**FIG.24D**  
(PRIOR ART)

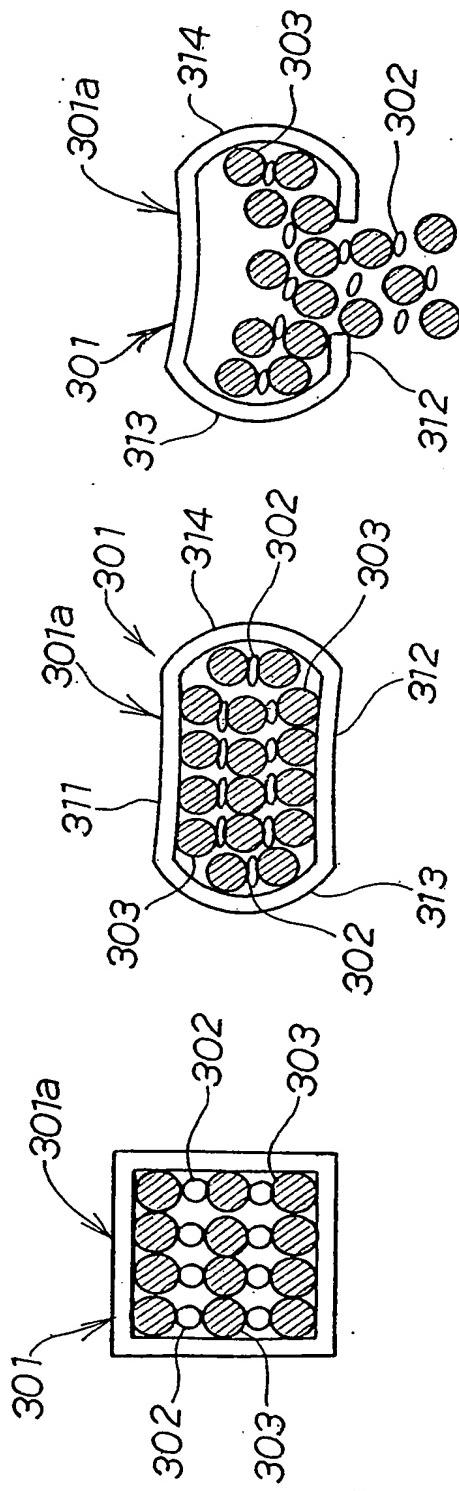
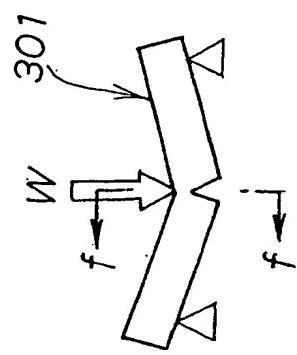
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**FIG. 25A**  
(PRIOR ART)



**FIG. 25C**  
(PRIOR ART)



**FIG. 25B**  
(PRIOR ART)

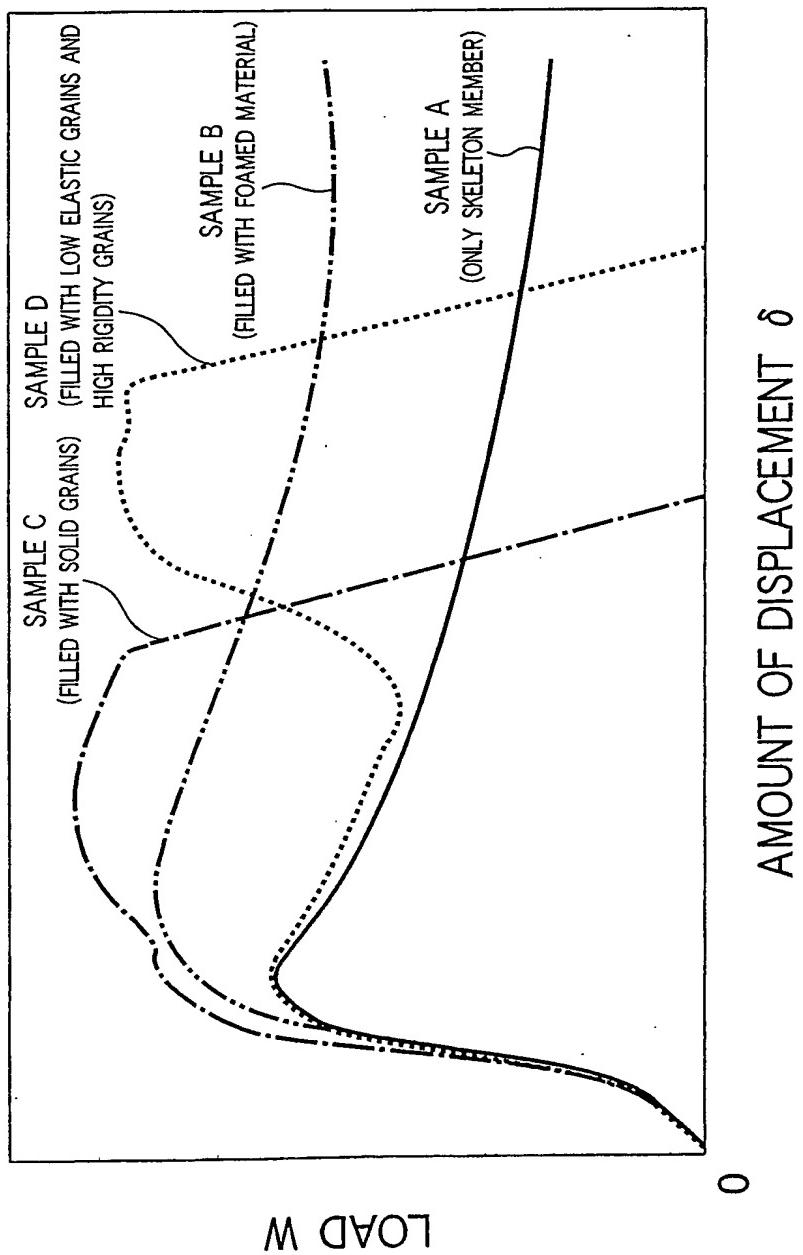
**FIG. 25D**  
(PRIOR ART)

**FIG. 25F**  
(PRIOR ART)

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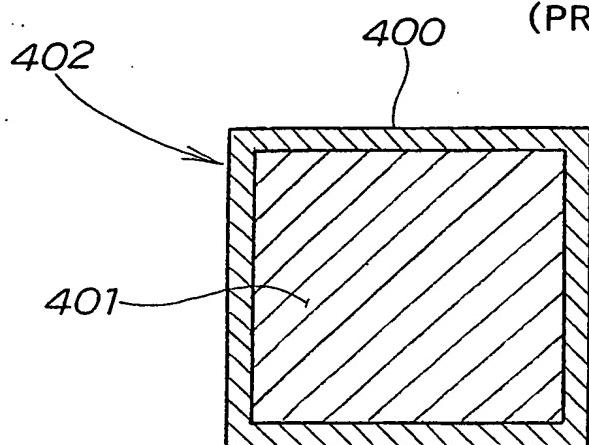
**FIG. 26**  
(PRIOR ART)



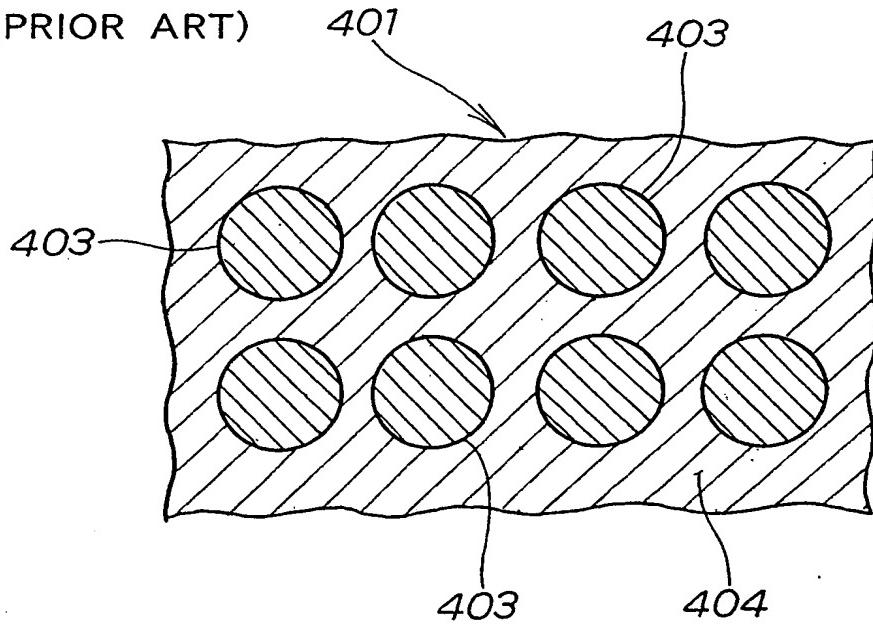
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**FIG.27**  
(PRIOR ART)



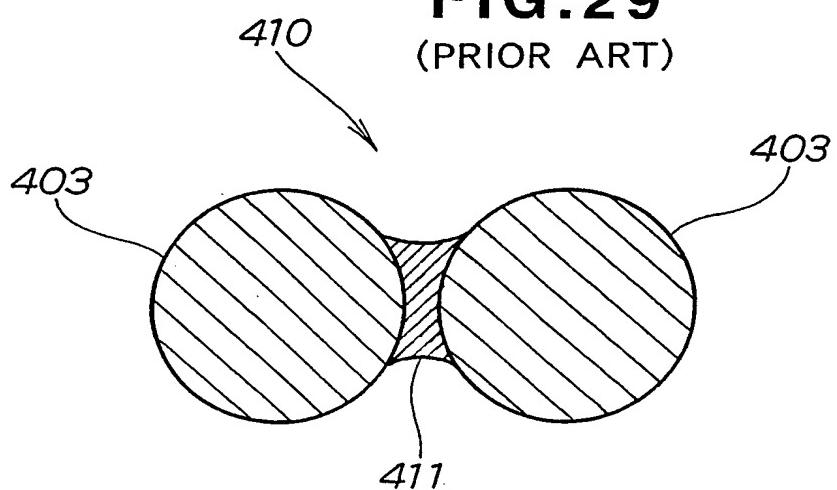
**FIG.28**  
(PRIOR ART)



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**FIG. 29**  
(PRIOR ART)



**FIG. 30**  
(PRIOR ART)

